CONTRACT AWARD	STATE OF ALASKA HQ, STATE EQUIPMENT FLEET (Contracting Authority) 2200 E. 42nd Avenue Anchorage, Alaska 99508 (907-269-0800)	CONTRACT AWARD NUMBER 1608109

ORDERING DEPARTMENT	COMMODITY CODE	DATE OF CONTRACT
HEADQUARTERS, STATE EQUIPMENT FLEET 2200 E. 42ND AVENUE ANCHORAGE, ALASKA 99508		9/24/07
	NUMBER & PERIOD OF RENEWAL OPTIONS (2) TWO - ONE YEAR OPTIONS	PR NO./DATE ASSIGNED
	DATE INITIAL CONTRACT BEGINS 9/24/07	DATE INTIAL CONTRACT ENDS 9/23/10

CONTRACTOR YUKON EQUIPMENT ADDRESS 2020 E. THIRD AVENUE ANCHORAGE, ALASKA	GS VENDOR CODE:
	ISSUED IN ACCORDANCE WITH BID # SEF- 1199 DATED: 9/24/07
	PRICE ADJ. REQ. PRIOR TO EACH RENEWAL:
	CPI/PPI BASE INDEX POINTS & MO/YR:
CONTACT NAME ROGER MORRIS	REVIEW DATE: 8/15/10 RENEWALS EXPIRE (MO/YR): 9/23/2012
TELEPHONE NUMBER 277-1541	ESTIMATED VALUE OF INITAL TERM: $1,500,000.00 REBID:

SEND INVOICES IN DUPLICATE TO: DOT&PF, STATE EQUIPMENT FLEET, 2200 E. 42ND AVENUE, ANCHORAGE AK 99508

NOTE: This order constitutes a binding commitment between the State and the contractor listed hereon. Unauthorized modification without the expressed prior approval of the contracting authority will result in a financial obligation on the contractor and/or unauthorized State personnel making the change.

DESCRIPTION

3-YEAR CONTRACT FOR THE PURCHASE OF TOWED AIRPORT RUNWAY BROOMS

CONTRACTING OFFICER
CATHERINE DWYER

PHONE: (907) 269-0786

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SECTION

CONTRACTING AUTHORITY NAME & TITLE	SIGNATURE
LYNDA SIMMONS, CONTRACTING OFFICER III	

TELEPHONE NO.: 907-269-0793 FAX NO.: 907-269-0801

IMPORTANT 1. Contract award number and ordering department name must appear on all invoices and documents relating to this order.
2. The State is registered for tax free transactions under Chapter 32, IRS Code Registration No. 92-601185. Items are for the exclusive use of the State and not for resale.

SECTION I

STANDARD TERMS AND CONDITIONS

1.0 ACCESSORIES: When accessories are supplied, they must be certified to be compatible with the rest of the equipment. Certification will be written evidence satisfactory to the State that the accessories are compatible. The contractor's failure to supply this evidence within the time required by the State will cause the State to consider the contract non-responsive and reject the bid.

2.0 AMENDMENTS: Contract terms shall not be waived, altered, modified, supplemented or amended without prior written approval of the Contracting Officer.

3.0 ASSIGNMENT: A contractor may not assign any portion of a contract unless authorized in advance and in writing by the Contracting Officer.

4.0 COMPLIANCE WITH ALL GOVERNMENT REGULATIONS: The contractor must comply with all applicable federal, state, and borough regulations, codes, and laws, and pay all applicable federal, state, and borough taxes, and is liable for all required insurance, licenses, permits, and bonds. Failure to comply with such requirements shall constitute a breach of contract and shall be grounds for contract cancellation. Damages or costs resulting from noncompliance shall be the sole responsibility of the contractor.

5.0 CONFLICT OF INTEREST: A person employed by the State of Alaska may not seek to acquire, be a party to, or possess a financial interest in, this contract if they are an employee of the administrative unit that supervises the award of this contract or they have the power to take or withhold official action to affect the contract.

6.0 CONTRACT PERIOD: From the date of award for three years (36 months). There are two one-year options for renewal, should it be in the best interest of the State.

7.0 DEFAULT: In case of contractor default, the State may procure the goods or services from another source and hold the contractor responsible for any resulting excess costs and may seek other remedies under law or equity. Alaska Statutes and Regulations provide for suspension and disbarment of non-responsible contractors.

8.0 DELIVERY: All deliveries shall be F.O.B. final destination point with all transportation and handling charges paid by the contractor. Responsibility and liability for loss or damage shall remain with the contractor until final inspection and acceptance when responsibility shall pass to the State except as to latent defects, fraud and contractor's warranty obligations.

9.0 DISCONTINUED ITEMS: In the event an item is discontinued by the manufacturer during the life of the contract, another item may be substituted, provided that the Contracting Officer makes a written determination that it is equal or better than the discontinued item and provided that it is sold at the same price or less than the discontinued item.

10.0 DISPUTES: Any disputes arising out of this contract shall be resolved under the laws of Alaska. An appeal or any original action to enforce any provision of this agreement must be in the superior court for the First Judicial District of Alaska.

11.0 FORCE MAJEURE (Impossibility to perform): Neither party to this contract shall be held responsible for delay or default caused by acts of God and/or war, which is beyond that party's reasonable control. The State may terminate this contract upon written notice after determining such delay or default will reasonably prevent successful performance of the contract.

12.0 HUMAN TRAFFICKING:

12.1 By signature on this contract, the contractor certifies that:

12.1.1 the contractor is not established and headquartered or incorporated and headquartered, in a country recognized as Tier 3 in the most recent United States Department of State's Trafficking in Persons Report; or

12.1.2 if the offeror is established and headquartered or incorporated and headquartered, in a country recognized as Tier 3 in the most recent United States Department of State's Trafficking in Persons Report, a certified copy of the offeror's policy against human trafficking must be submitted to the State of Alaska prior to contract award.

12.2 The most recent United States Department of State's Trafficking in Persons Report can be found at the following website: www.state.gov/g/tip/

12.3 Failure to comply with this requirement will cause the state to cancel the contract.

12.4 This pertains to goods and services above $50,000.00.

13.0 INDEMNIFICATION: The contractor shall indemnify, hold harmless, and defend the contracting agency from and against any claim of, or liability for error, omission or negligent act of the contractor under this agreement. The contractor shall not be required to indemnify the contracting agency for a claim of, or liability for, the independent negligence of the contracting agency. If there is a claim of, or liability for, the joint negligent error or omission of the contractor and the independent negligence of the contracting agency, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. "Contractor" and "contracting agency", as used within this and the following article, include the employees, agents and other contractors who are directly responsible, respectively, to each. The term "independent negligence" is negligence other than in the contracting agency's selection, administration, monitoring, or controlling of the contractor and in approving or accepting the contractor's work.

14.0 INSPECTIONS: Goods furnished under this contract are subject to inspection and test by the State at times and places determined by the State. If the State finds goods furnished to be incomplete or not in compliance with contract specifications, the State may reject the goods and require the contractor to either correct them without charge or deliver them at a reduced price, which is equitable under the circumstances. If the contractor is unable or refuses to correct such goods within a time deemed reasonable by the State, the State may cancel the order in whole or in part. Nothing in this paragraph shall adversely affect the State's rights as buyer, including all remedies and rights granted by Alaska statutes.

15.0 INSURANCE:

15.1 Without limiting contractor's indemnification, it is agreed that the contractor shall purchase at its own expense and maintain in force at all times during the

performance of services under this agreement the following policies of insurance. Where specific limits are shown, it is understood that they shall be the minimum acceptable limits. If the contractor's policy contains higher limits, the state shall be entitled to coverage to the extent of such higher limits. Certificates of Insurance must be furnished to the Contracting Officer prior to beginning work and must provide for a 30-day prior notice of cancellation, nonrenewal or material change of conditions. Failure to furnish satisfactory evidence of insurance or lapse of the policy is a material breach of this contract and shall be grounds for termination of the Contractor's services. All insurance policies shall comply with, and be issued by insurers licensed to transact the business of insurance under AS 21.

15.2 Proof of insurance is required for the following:

15.2.1 Workers' Compensation Insurance: The contractor shall provide and maintain, for all employees engaged in work under this contract, coverage as required by AS 23.30.045, and; where applicable, any other statutory obligations including but not limited to Federal U.S.L. & H. and Jones Act requirements. The policy must waive subrogation against the State.

15.2.2 Commercial General Liability Insurance: covering all business premises and operations used by the contractor in the performance of services under this agreement with minimum coverage limits of $300,000 combined single limit per occurrence.

15.2.3 Commercial Automobile Liability Insurance: covering all vehicles used by the contractor in the performance of services under this agreement with minimum coverage limits of $300,000 combined single limit per occurrence.

15.3 Failure to supply satisfactory proof of insurance within the time required will cause the State to declare the contractor non-responsive and to reject the bid.

16.0 ITEM UPGRADES: The State reserves the right to accept upgrades to models on the basic contract when the upgrades improve the way the equipment operates or improve the accuracy of the equipment. Such upgraded items must be at the same price as the items in the basic contract.

17.0 NEW EQUIPMENT: Equipment offered in this contract must be new equipment. New equipment means equipment that is currently in production by the manufacturer and is still the latest model, edition or version generally offered. The equipment must be warranted as new by the manufacturer and may not have been used for any purpose, other than display (not demonstration), prior to its sale to the State. The State will not accept remanufactured, used or reconditioned equipment, including used or reconditioned components or parts of. It is the contractor's responsibility to ensure that each piece of equipment delivered to the State complies with this requirement. A contractor's failure to comply with this requirement will cause the State to seek remedies under breach of contract.

18.0 SUITABLE MATERIALS: All materials, supplies or equipment offered by a contractor shall be new, unused, of recent manufacture, and suitable for the manufacturer's intended purpose unless the specifications allow for used, rebuilt or remanufactured equipment.

19.0 PAYMENT: Payment for agreements under $500,000 for the undisputed purchase of goods or services provided to a State agency will be made within 30 days of the receipt of a proper billing or the delivery of the goods or services to the location(s) specified in the agreement, whichever is later. A late payment is subject to 1.5% interest per month on the unpaid balance. Interest will not be paid if there is a dispute or if there is an agreement, which establishes a lower interest rate or precludes the charging of interest.

20.0 SEVERABILITY: If any provision of this contract is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected.

21.0 SHIPPING DAMAGE: The State will not accept or pay for damaged goods. The contractor must file all claims against the carrier(s) for damages incurred to items in transit from the point of origin to the ultimate destination. The State will provide the contractor with written notice when damaged goods are received.

22.0 STANDARD AND SPECIAL TERMS AND CONDITIONS: The terms and conditions of this section are standard to State of Alaska, Department of Transportation and Public Facilities, Statewide Equipment Fleet contracts for the purchase of goods. There may also be other special terms and conditions in an Invitation to Bid or Request for Proposal which apply only to this contract. In the event of a conflict between the standard and special terms and conditions, the Special Terms and Conditions take precedence.

23.0 SUCCESSORS IN INTEREST: This contract shall be binding upon successors and assigns.

24.0 TAXES: Prices must be exclusive of federal, state, and local taxes. If the contractor believes that certain taxes are payable by the State, the contractor may list such taxes separately, directly below the price for the affected item. The State is exempt from Federal Excise Tax because articles purchased are for the exclusive use of the State of Alaska.

25.0 USE OF BRAND OR TRADE NAMES: Brand or trade names used by the State in contract specifications are for the purpose of describing and establishing the standard of quality, performance and characteristics desired and are not a statement of preference nor are they intended to limit or restrict competition. Contractors may submit bids for substantially equivalent products to those designated unless the Invitation to Bid provides that a specific brand is necessary because of compatibility requirements. All such brand substitutions shall be subject to the State's approval.

26.0 WARRANTY: Unless otherwise stated, all equipment shall be new and current model and shall carry full factory warranties. The contractor warrants all goods delivered to be free from defects in labor, material and manufacture and to be in compliance with contract specifications. All implied or expressed warranty provisions of the Uniform Commercial Code apply. All warranties shall be for and benefit the State.

27.0 HOLD OVER: The State and the contractor agree that any holding over of the contract excluding any exercised renewal options, shall remain in full force and effect. The State and the contractor also agree to provide written notice to the other party of the intent to cancel such month-to-month extension at least thirty (30) days before the desired date of cancellation.

SECTION II

SPECIAL TERMS AND CONDITIONS

1.0 DELIVERY:

1.1 **Pre-delivery service:** Prior to delivery, each vehicle, piece of equipment or attachment shall be serviced and inspected by the dealer or his agent. A certification of this inspection must include the following (as applicable to the type of equipment):

1.1.1 Dealer and vehicle identification.

1.1.2 Check-off of service and inspection performed including a list of all fluids including type weight and specification that are in the equipment as delivered for all fluid compartments.

1.1.3 The vehicle's crankcase, differential and transmission, and other fluid compartments shall be filled to the manufacturer's recommended capacity.

1.1.4 Fuel tank shall be filled to at least register a minimum ¼ full on the fuel gauge, unless restricted by the commercial carrier, when the vehicle arrives at the delivery location.

1.1.5 The vehicle shall be clean and free from defects when delivered and should be ready for immediate and continued use upon delivery.

1.1.6 Units delivered in an incomplete state, or that have deficiencies per the specification, are subject to the damage charges as noted in paragraph 4.0 below.

1.2 **Delivery Receipt:**

1.2.1 A delivery receipt will be required for the delivered unit. The receipt must be filled out by the vendor, and acknowledged by state receiving personnel by signature and date of actual receipt of equipment. One copy of this delivery receipt is to be given to the state-receiving agency. The original shall accompany the vendor's invoice to support and properly identify the vehicle delivered.

1.2.2 Vendors are cautioned and advised that such delivery forms or other receiving type documents will not in any way be construed to mean the state has formally and fully accepted unit(s) referenced thereon as complete and meeting every specification set forth. The affected regional Equipment Manager(s) is/are to be contacted regarding delivery coordination and contacts.

1.2.3 Under no conditions will warranty documents be presented at time of delivery for signature. Only the Contracting Officer or designee may sign warranty documentation.

2.0 LINE SHEETS/BILL OF MATERIALS:

2.1 It is required within 30 days after delivery that the contractor will provide a comprehensive listing of all components used to assemble the unit.

2.2 This includes any components installed by the manufacturer or any subcontractor or the contractor.

2.3 Information will include at a minimum, when available, make, model serial number on items such as engines, transmissions, axles, tires, bodies, plows, snow wings, belly blades, cranes, etc.

2.3.1 On after-market items that are installed, part numbers with descriptions, such as, but not limited to hydraulic fittings, are to be provided.

3.0 F.O.B. POINT:

3.1 The price of each unit is to be based on delivery to Seattle/ Tacoma dockside area.

3.2 The F.O.B. point for all items purchased under this contract is the final destination anywhere within the State of Alaska. Ownership of and title to the ordered items remains with the contractor until the items have been delivered at their final destination and accepted by the State.

3.3 The cost of shipping and delivery for orders beyond the limits of Seattle/Tacoma dockside will be handled as follows. The contractor will prepay the shipping and delivery charges to any destination named by the State in its order. The contractor will charge-back those shipping and delivery charges to the State as a separate line item on the State's invoice.

3.3.1 For this contract, **airport runway brooms being shipped over water are to be shipped under deck, to protect them from ocean salt spray.** For example: From Seattle to Anchorage, Totem Ocean Trailer Express. Also refer to Section IV – Specifications.

3.4 All shipping charges over $100 must be documented by a copy of the actual shipping invoice and received with the invoice charge to the State.

4.0 DAMAGES FOR LATE DELIVERY AND NON-CONFORMING GOODS:

4.1 Time is of the essence in this contract. The contractor is expected to deliver goods that conform in all material respects to the contract specifications on or before the date provided therein, as may be amended by written agreement of the parties.

4.2 In the event that the goods are delivered late or in the event that the goods do not conform in all material respects to the contract specifications, the State shall be entitled to offset against the contract price, as liquidated damages and not as a penalty, an amount of **$110.00 per calendar day**, multiplied by the number of calendar days elapsing between the delivery date provided in the Contract Price Schedule and the date that conforming goods are delivered to the State. The number of days for which liquidated damages shall apply shall include, in the case of non-conforming goods, the time reasonably necessary for the State to inspect the goods.

4.3 These liquidated damages represent a reasonable estimate of amounts necessary to compensate the State for loss of use of the goods during the period in which the goods would have been available to the State if conforming goods had been timely delivered.

5.0 WARRANTY:

5.1 **Standard Warranty Package:** Unless otherwise stipulated by this contract, the contractor will provide a five-year (60-month) warranty.

5.1.1 Full (100%) Parts and Labor Warranty Coverage of all components for the 60-months, from the date the unit is placed in service.

5.1.2 Warranty repairs shall take place at the vendor's authorized warranty service center(s) in Anchorage or Fairbanks, as a minimum. All travel costs for warranty performed outside of these areas will be billed as follows:

5.1.2.1 Travel Labor Charge, as quoted in Section III – Contract Price Schedule. Travel labor will only be reimbursed for the time the employee is traveling from a warranty service center to the in-service location and return.

5.1.2.2 Mileage Charge, from the warranty service center to the in-service location, as quoted in Section III – Contract Price Schedule.

5.1.2.3 Meals are paid at actual and charges must be accompanied by receipts and are not to exceed the State authorized $42.00 per day.

5.1.2.4 Transportation, such as airfare, shall be reimbursed at actual and all charges are to be accompanied by a receipt/copy of the ticket.

5.1.2.5 Lodging shall be reimbursed at actual and shall not exceed $100.00 per night unless no other lodging is available. Requests for reimbursement must be accompanied by a receipt.

5.1.2.6 Travel must be charged from the closest warranty service center to the in-service location unless otherwise approved by the Contract Administrator.

5.1.3 Full Warranty Coverage includes all cost of labor, parts, freight of parts or associated tools, transportation and travel in the Anchorage, Fairbanks and Juneau areas (within a 10 mile radius) lubricants, miscellaneous cost, etc., to place the unit in like-new condition.

5.1.4 Should the manufacturer's standard warranty exceed the minimum State warranty requirements, the manufacturer's warranty will run in conjunction with and enhance the State's warranty, then continue for the remainder of its term.

5.2 **General Warranty Requirements for all Equipment:**

5.2.1 **Warranty Exceptions:**

5.2.1.1 For clarification, warranty does not apply to normal wear and tear or maintenance items, accident damages, misuse of equipment or failure to operate or maintain equipment as prescribed by vendor/manufacturer.

5.2.2 **Warranty on Attachments:** Same as Standard Warranty Package.

5.2.3 **In-Service Date:**

5.2.3.1 Warranty on vehicles not placed in service immediately upon receipt because of time lag to construct body components and/or installation of special equipment, or due to seasonal usage or other delay, shall be warranted from the date the vehicle is placed in service. The receiving agency shall notify the vendor/manufacturer in writing of the actual "in service" date. Notification of the requirement for delayed warranty will be provided on delivery orders whenever possible.

5.2.4 **Authorized Warranty Dealer (Contractor) and Subcontractor:** The contractor must meet the following applicable requirements:

5.2.4.1 Contractor must:

5.2.4.1.1 possess a current Alaska Motor Vehicle Dealer License pursuant to AS 08.66.010 through AS 08.66.090, when offering motor vehicles, trailers or semi-trailers, and;

5.2.4.1.2 be a manufacturer(s) authorized warranty service dealer for each unit, and;

5.2.4.1.3 have the capability of providing warranty servicing and repair work within the State of Alaska, with authorized warranty repair facilities in Anchorage or Fairbanks at a minimum.

5.2.4.2 Contractor, if appropriate, shall submit the name, address, and a copy of current Alaska business license of any subcontractor who will provide the warranty servicing and repair work referenced in paragraph 5.1 above. The contractor must also provide contractual documentation or agreements with the subcontractor insuring the state that the subcontractor will provide complete contract performance on behalf of the contractor as set forth in this ITB and verification that the work provided will maintain manufacturer's warranty requirements.

5.2.4.2.1 Approval of all subcontractors must take place prior to the bid opening.

5.2.4.2.2 The use of a subcontractor does not exclude the provisions as noted in paragraphs 5.2.4.1, and subsequent paragraphs, as requirements to the contractor.

5.2.5 **Warranty Claims:**

5.2.5.1 Warranty will be provided at the unit's assigned (in-service) location. Because of the remote location of some equipment it is not always practical to deliver equipment to authorized warranty repair facilities. In these cases, the contractor may perform warranty work at the state's location or, the State of Alaska, at its discretion, reserves the right to perform the warranty work and be reimbursed by the contractor.

5.2.5.2 The State of Alaska has established a warranty procedure whereby the vendor is to be notified via letter, telex, fax, etc. that warranty work needs to be performed. If time is of the essence, a telephone call confirmed by one of the above written procedures may be utilized. The contractor must notify the state immediately that it will begin to perform the warranty work at the equipment location within 48 hours from receipt of written notification. The State may, at its discretion, proceed to make warranty repairs with its own work force in the case of emergency situation or to preclude excessive downtime (greater than 48 hours).

5.2.5.3 Failure to notify the State, that the contractor intends to begin to perform warranty work promptly under this paragraph, by the end of the business day following the states notification that work is required to be performed, is considered a contractual breach.

5.2.6 The contractor will be invoiced for required warranty work performed by the state. The shop rate to be charged for warranty work performed by the state will be **$86.00** per hour. Labor hours to be charged will be in accordance with appropriate flat rate manuals. If flat rate manuals do not cover the labor operation, actual repair time will be used. Warranty work performed by state shop personnel at locations where no shop personnel are permanently stationed may be subject to travel expenses incurred involving those warranty repairs.

5.2.7 Factory Recall:

5.2.7.1 Nationwide factory recall or product update programs are the responsibility of the vendor and/or manufacturer. The State will attempt to bring affected equipment to an authorized repair facility. However, because of the remoteness of some equipment this is not always practicable or economical. In such cases, factory recall and modification work will be handled the same as warranty work. Factory recall notices sent to the state

should, in addition to serial number, include model, year, and dealer from whom purchased.

5.2.8 **Hazardous Material:**

5.2.8.1 Due to concerns about liability resulting from hazardous materials being left at the work site on State of Alaska property, effective immediately no contractors will be allowed to use the State of Alaska rural airport facilities to perform warranty work unless they agree and sign a letter of intent stating that all waste products including oils, coolant and garbage will be removed from the work site. Contractors should note that in some village locations other suitable facilities might be available for rent from local residents or village authority.

6.0 REPAIR ORDERS AND DOCUMENTATION:

6.1 Any work performed by the contractor or approved subcontractor, whether warranty or any other work on a piece of equipment purchased under this contract, will require a copy of the repair order, any invoices showing parts and commodities including oils and types used.

7.0 PUBLICATIONS:

7.1 Publications for each unit ordered are to be received by the State of Alaska not later than 10 days after receipt of the unit. Custom manuals may be delivered not later than 90 days after receipt of the unit. Delivery will not be considered complete until the publications for each unit have been received by the State of Alaska. Note: Publications, when required, will be ordered on the same Purchase Order as the unit itself.

7.1.1 All manuals are to be pre-assembled in factory binders prior to delivery.

7.2 **Service Manuals:**

7.2.1 Complete set(s) (compact disc if available and books) to include applicable information covering prime unit and attachments:

7.2.2 Body, chassis, and electrical

7.2.3 Engine, transmission, and differential(s) (service and rebuild)

7.2.4 Electrical and Vacuum troubleshooting

7.2.5 Wiring diagrams

7.2.6 Service specifications

7.2.7 Engine/emission diagnosis

7.3 **Parts Manuals:**

7.3.1 Complete set(s) (compact disc if available and paper books) to include prime unit, attachments, and updates. If updates are not provided during the five-year warranty period, the State will order them from the manufacturer and bill the contractor for the full cost, including shipping.

7.3.2 Parts manuals are to be customized by serial number.

7.4 **Operator's Manuals:** Complete set(s) to include prime unit and attachments.

7.5 **Quantities:** As per Section III – Contract Price Schedule.

7.6 **Manuals:** To be delivered to, and receipt signed by person(s) as noted on the Purchase Order.

7.7 **Service Bulletins, Etc.:** The contractor must provide appropriate service bulletins, technical support bulletins, service letters, product support bulletins, and/or any other information type notifications that are sent out to the vendor or used by the manufacturer in the maintenance and report of the vehicle, equipment or attachments being provided. The intent of this clause is that the State of Alaska be provided notification of any and all changes or improvements that may affect the maintenance, reliability, longevity, and safety of our equipment. This information will be provided as soon as possible to person(s) as noted on the Purchase Order.

8.0 STATEMENT OF ORIGIN: The contractor will be required to furnish a Manufacturer's Statement of Origin for Automotive or Non-Automotive rolling stock for each unit. All such documents shall be forwarded to:

DOT&PF, HQ State Equipment Fleet
2200 E. 42nd Avenue Room #311
Anchorage, Alaska 99508

9.0 WEIGHT VERIFICATION SLIPS: If required in the Contract Price Schedule, a weight scale ticket of the completed unit will be included with the Statement of Origin.

10.0 INSPECTIONS:

10.1 The State's inspection of all materials and equipment upon delivery is for the sole purpose of identification. Such inspection shall not be construed as final or as acceptance of the materials or equipment if materials or equipment do not conform to contract requirements. If there are any apparent defects in the materials or equipment at the time of delivery, the State will promptly notify the contractor thereof. Without limiting any other rights of the State, The State at its option, may require the contractor to:

10.1.1 Repair or replace at contractor's expense, any or all of the damaged goods,

10.1.2 refund the price of any or all of the damaged goods, or

10.1.3 accept the return of any or all of the damaged goods.

10.2 Costs of remedying all defects, indirect and consequential costs of correcting same, and/or removing or replacing any or all of the defective materials or equipment will be charged against the contractor.

11.0 PRICE:

11.1 **Price Guarantee:** The contractor is responsible to maintain prices under the contract firm for 180 days after bid opening. All price increases or decreases must remain firm for the following 180 days.

11.2 **NO RETROACTIVE PRICE INCREASES WILL BE ACCEPTED**.

11.3 Price adjustments, increases or decreases, for subsequent orders, may be made by providing the Contracting Officer satisfactory evidence that all of the following conditions exist:

11.3.1 The increase is a result of the increased cost at the manufacturer's level and not costs under the contractor's control, and that;

11.3.1.1 The increase will not produce a higher profit margin for the contractor than that on the original contract, and that;

11.3.1.2 The increase affects only the item(s) that are clearly identified by the contractor.

11.3.1.3 Satisfactory forms of the evidence of the above facts may include a certified invoice from the manufacturer, or an affidavit from an independent professional price-tracking firm that is recognized by the industry as reputable and knowledgeable. The contractor must be able to show the difference between the prior year's price and the current difference in the price being requested.

11.4 **Price Decreases:** During the period of the contract, the contractor must pass on to the state all price decreases, such as fleet rebates. A contractor's failure to adhere strictly and faithfully to this clause will be considered a material breach of contract. The state reserves the right to cancel the contract if the contractor fails to properly perform the duties set out herein.

12.0 COOPERATIVE PURCHASING:

12.1 All requests to cooperatively purchase, by qualified political subdivisions, from the resulting contract shall be approved by the Contracting Officer.

12.2 At no time may the contractor change the terms and conditions, alter the price to another entity, which differs from the contractual price, nor charge undisclosed administrative fees to allow cooperative purchasing.

12.3 The contractor shall charge, and subsequently reimburse to the State after receipt and payment by purchaser, a users fee of 2% or $1,000.00, whichever is less, for each unit ordered by a qualifying political subdivision. Any administrative fee resulting to the contractor in fulfillment of this requirement must be included in the bid price of the offered unit.

13.0 MANUFACTURER'S REBATE (INCENTIVES): In any circumstance during or prior to completion of the contract, whereupon the State of Alaska becomes eligible to receive a rebate for any vehicle purchased under this contract, it shall be the CONTRACTOR'S responsibility to inform the Contracting Officer in writing and to advise the procedures for obtaining such rebates.

14.0 REPLACEMENT PARTS:

14.1 The State of Alaska shall expect the dealer or manufacturer to provide replacement wear parts at their Anchorage (as a minimum Alaska location) authorized warranty facility within seven (7) days of order. All other parts must be available within ten (10) working days.

14.2 Back order procedures: Back orders are acceptable; however, the ordering shop shall be apprised at time of original orders as to the expected delay in delivery.

14.3 Warranty: All products supplied by the contractor shall be warranted against defects in materials and workmanship for a minimum of 90 days, commencing at the time of installation as long as the installation is within 12 months of purchase. The cost of any defective product and the labor required to replace the defective product shall be the obligation of the contractor.

14.3.1 If the manufacturer's warranty exceeds the stated warranty then manufacturer's warranty supersedes.

14.3.2 Parts Return: Within 12 months of purchase, the State is to be allowed to return new, parts with full refund, less shipping charges.

14.3.3 Invoicing: Full description of item is required on all invoices and billings.

15.0 BRAND NAME SPECIFICATION: For purposes of this contract, certain vehicle accessories are specifically identified by brand name and model/part number. Only the listed brand name and model/part numbers are acceptable. Substitutes shall be not allowed.

16.0 ADDITIONS OR DELETIONS: The State reserves the right to add or delete items, agencies or locations as determined to be in the best interest of the State. Added items, agencies or locations will be related to those on contract and will not represent a significant increase or decrease in size or scope of the contract. Such additions or deletions will be documented via mutual agreement, will be at prices consistent with the original bid price margins, and will be evidenced by issuance of a written contract change notice from the Contracting Officer.

17.0 CONTRACT ADMINISTRATION: The administration of this contract, including any/all changes, is the responsibility of the Contracting Officer, HQ State Equipment Fleet.

18.0 EQUIPMENT RELIABILITY:

18.1 Reliability of equipment is paramount importance to the State. It is the policy of SEF to require minimum levels of reliability from owned or leased equipment for it to be considered acceptable. Equipment must be capable of meeting the acceptable reliability standard stated below.

18.2 **Acceptable Reliability**: The state will monitor equipment reliability. Acceptable reliability for this contract is achieved when a machine achieves or maintains a Reliability Ratio (RR) equal to or exceeding the following:

18.2.1 A.90 (90 percent) RR during any consecutive 12-months (365 days) during the warranty period.

18.2.2 A .75 (75 percent) RR per operational month (recognizing operational as subject to weather and being defined by calendar days) during the consecutive 12-month period.

18.2.3 RR below the stated percentages does not meet minimum reliability requirements for state owned equipment.

18.3 **Machine Failure and Downtime**:

18.3.1 **Machine Failure** is any and all loss of capability to perform fully, as specified, which is not attributed to **Conditioned Failure**. Machine failure resulting in the unit being out of service is defined as **Downtime**.

18.3.2 **Conditioned Failure** is any machine failure attributable to accident, operator abuse or other external cause not attributable to a defect in the machine itself.

18.3.3 **Downtime** is the actual number of days or fractions of days that the equipment is in a state of Machine Failure. Downtime does not count time used for scheduled maintenance (including preventative maintenance), time lost for repair maintenance and scheduled major overhauls, time lost for repair of damage as a result of operator abuse or machine misapplication; or time lost as result of accident or an act of God. Downtime includes:

18.3.3.1 Actual shop hours (and/or field repair hours) required to return unit to full operational status following machine failure, including trouble-shooting, repair, necessary replacement of parts, and necessary adjustments, plus

18.3.3.2 Time lost waiting for parts and/or vendor assistance. "Waiting downtime" also applies if need for parts/assistance is discovered during routine maintenance and return to service is deemed counterproductive. In this case, "waiting time" clock begins with notice of need to vendor. Allowance may be considered in "waiting time" calculations if arrival of parts/ assistance is delayed by transportation shutdown, to include verifiable transportation scheduling difficulties such as infrequent flights as long as all reasonable alternatives have been exhausted. Parts and assistance are to be provided by the quickest means reasonably possible to avoid unnecessary delays and downtime.

18.3.4 **Out of Service Report (OSR):** Downtime resulting from machine failure is the actual number of hours a machine is out of service as recorded on the OSR or in the Equipment Maintenance Management System (EMS).

18.3.5 The state will record all downtime on an OSR or EMS work order, which will be originated for each occurrence of downtime. The document will show the date and time a unit went down, the location where the machine was abased, the reason the machine is down, date and time the contractor was notified (if applicable), the date and time the machine was returned to service, and the total hours of downtime.

18.3.5.1 The Contract Manager will finalize and approve the OSR or EMS work order. Both are available for contractor review.

18.3.6 **Reporting Downtime:** The Contracting Officer will maintain documentation of all downtime, and shall send copies of such documentation to the contractor.

18.3.7 **Calculation of Reliability Ratio (RR):** RR is the mathematical ratio of operated time (uptime) to out of service time (downtime). The RR will be calculated according to the following formula:

$$RR = \frac{\text{Days in a Month} - \text{Days Out of Service}^{1}}{\text{Days in a Month}^{2}} = \frac{\text{DM-DO}}{\text{DM}}$$

Note: [1]**Fractional Days** apply, i.e., a unit is out of service 8 hours in a 24 hour period equals 1/3 or .33% of a day.
[2] **A day** is allocated as 24 consecutive hours from 12:00 AM to 12:00 AM.
Example: 30 days DM with 2 days, 8 hours DT would result in:

$$RR = \frac{30-2.33}{30} = .92$$

18.3.8 **Unacceptable Reliability:** If an item of equipment fails to perform at an acceptable level of reliability during the warranty period, the Contracting Officer will notify the contractor and request immediate remedy. Failure to remedy the piece of equipment within 30 days for failure will result in a breach of contract and the immediate return of the equipment and reimbursement of the guaranteed value (V) of the unit as follows:

Original cost of the unit less (-) Freight = $_____ (V)

(V) Less (-) the cost of operation as listed in the *Equipment Rental Rate Blue Book* for the 2nd quarter, 2005 or comparable equipment or the current Federal Fixed Usage Rate for the Class for the State of Alaska, (a, b, or c, per hour) X the number of hours used = _____ (DV)

a. Loader mounted snow blower = $192.00 per hour
b. All Carrier Units = $270.00 per hour
c. Broom, Tow Behind = $360.00 per hour

Example: Cost of single unit, less freight = $150,000. The hourly cost is $150.00 per hour. The unit was used 150 hours prior to failing the acceptable reliability. The contractor guaranties the unit's worth at $127,500.

18.3.9 Prior to return, the state will correct all reasonable cosmetic deficiencies (such as excessive rust) and those deficiencies that are directly related to damage due to accidents, misuse of equipment or failure to operate or maintain equipment as prescribed by contractor/manufacturer, prior to public auction.

18.3.10 The tires will be serviceable with at least 50% remaining tread.

18.3.11 Oil samples, as per manufacturer's service manual recommendations, will be taken by State of Alaska Maintenance on the engine, transmission, differentials and hydraulics.

18.3.12 In the case of dispute, at the expense of the State, a qualified agent from Northern Adjusters, Inc., or another professionally recognized appraiser, may be commissioned for an independent claim appraisal. Such appraisal shall be binding upon the State and contractor."

18.4 **PERFORMANCE BOND FOR WARRANTY & PERFORMANCE:**

18.4.1 The performance bond is due at the time of the first purchase order.

18.4.2 The state does not have backup equipment in many of its locations. Consequently, new-unit reliability and warranty performance is vital importance. To insure highest possible reliability and warranty service this contract requires the contractor to post **performance security, in one of the forms listed below,** within 30 days of the first purchase order. The purpose of the posted performance deposit is to secure performance over the entire term of the contract. The performance security must cover any remaining warranty in the event that the contractor is unable to or otherwise fails to complete the five-year warranty period. The amount of the performance deposit will be $**50,000.00**. Release of the performance security will be contingent solely upon the acceptable completion of the terms of the original contract.

18.4.3 The Performance Deposit must be posted for a **TWO YEAR TERM, AND THEREAFTER ANOTHER TWO YEAR, THEN ONE YEAR, FINANCIAL GUARANTEE SECURITY OR SURETY BOND SECURED BY A SURETY COMPANY AGREED TO BY THE PARTIES TO THIS CONTRACT WILL BE PROVIDED WITHIN 90 DAYS OF THE EXPIRATION OF THE FIRST SECURITY. Failure to post the successive bond, OR to provide an alternate security as listed below, will be cause for breach of contract and immediate cancellation of any future orders.** The performance deposit will be valid from the date the unit is delivered is placed into service at the assigned location.

18.4.4 **Performance Bond**: A performance bond must be written in a form satisfactory to the state by a company authorized to do surety business in Alaska. The performance bond must provide that it is payable to the State of Alaska as security for the contractor's full and faithful performance of the contract.

18.4.5 **Alternate Security**: In lieu of a performance bond, a contractor may post security in the form of a certified or cashier's check, or a certificate of deposit, to be returned to the contractor provided that the contractor fully and faithfully performs the contract, including all warranty obligations.

18.4.6 **Certified or Cashier's Check**: A certified or cashier's check, made payable to the State of Alaska.

18.4.7 **Certificate of Deposit**: A Certificate of Deposit (CD) made payable to the State of Alaska. Inclusion of other verbiage on the “payee” or “pay to” line will render the security unacceptable.

SECTION III

CONTRACT PRICE SCHEDULE

Lot #1

Item	Unit	Description	Total $ Amount
1a	1 ea.	Towed Airport Runway Broom ……. Five (5) year warranty as per Section II – Special Terms and Conditions. Per Specification #547-TSAIA State Class #547	**$328,556.00**

2007 M-B Companies, Model 4620-TTB-CRDL High Performance Tracking Tow Runway Broom w/Cradling Broom Head

Optional Items:

1b	1 ea.	Optional Item (Pricing is required) …….. Spare Tire and Wheel (As per Spec Item 2.4.3)	**$2,234.00**
1c	1 ea.	Optional Item (Pricing is required) ..... Spare Control Box (As per Spec Item 4.3.5)	**$4,927.00**
1d	1 ea.	Optional Item (Pricing is required) ..... Spare Brushes (As per Spec Item 6.3.6.2)	**$11,460.00**
1e	1 ea.	Optional Item (Pricing is required) ..... Caster Wheel Assemblies (As per Spec Item 6.5.6)	**$2,425.00**
1f	1 ea.	Optional Item (Pricing is required) ..... Training at TS Anchorage International Airport (As per Spec Item 9.0)	**$7,049.00**
1g	1 ea.	Optional Item (Pricing is required) ..... Publications (As per Spec Item 10.7)	**$460.00**
1h	1 ea.	Optional Item (Pricing is required) ..... Pilot Inspection (As per Spec Item 11.0)	**$6,130.00**

FOB Point: The FOB point is dockside Seattle/Tacoma area. However, the contractor is still responsible to ship the unit to its final assigned location. Reference Section II – Special Terms and Conditions, 3.0.

Required Delivery: Not later than 180 days ARO to dockside Seattle/Tacoma area.

Offered Delivered Time: **180** Days ARO.

SECTION VI

SPECIFICATIONS

SPECIFICATION #547-AIA
Towed Airport Runway Broom
August 08, 2007

GENERAL SPECIFICATION:

It is the purpose of this specification to describe a new, and of the manufacturer's latest current heavy-duty model and design, diesel powered towed airport runway broom, equipped with a minimum 19½ foot in length x minimum 36 inch diameter broom, a minimum 20,125 CFM air blower, and rear-wheel steering.

(NOTE: If the manufacturer has the capability to provide a 35 inch and a 46 inch diameter broom, the contractor should also provide an optional price to upgrade to the 46 inch boom.

The maximum transport width is 9'7" (115 inches).

The proposed broom and air blower drive power system components including engine, gearbox, and hydrostatic pumps and motors must have in field proven experience. Prototypes will not be allowed. Manufacturer must have been in the continuous business of design and manufacturing of airport runway brooms for a period of not less than the past three (3) years.

The broom is to be capable of completely removing up to 2½ (2.5) inches light snow (8 to 15 pounds per cubic foot) at speeds of 10 to 30 MPH with a 3 to 4 inch strike pattern. The unit is to be capable of sweeping slush (density of 40 pounds per cubic foot) at speeds of 10 to 30 MPH. The unit shall also be capable of sweeping thin deposits of dry sand, dust, water, or other light debris.

Unit will be towed by a tractor truck utilizing a rigid 5th wheel plate.

Unit to include all standard equipment and accessories as advertised in manufacturer's specification sheet of model offered, unless otherwise specified herein.

APPLICATION:

To be used for winter and summer airport runway sweeping operations with the ability to remove snow, ice, slush, sand and other debris at rated speeds up to 35 MPH depending on conditions. Unit will be subject to varying terrain, tight turning radiuses and weather conditions with temperature ranges of plus 80 to minus 50 degrees Fahrenheit.

DOCUMENTATION REQUIRED:

A basic manufacturer's product brochure describing the unit was provided with the bid.

Specifications marked with an asterisk (*) have supporting documentation in the form of a product brochure, manufacturer's technical data sheet, or a letter of clarification which indicates specifically what the contractor intends to supply in regard to said items.

POWER TRAIN:

1.1 (*) Engine used to power the broom head and air blower system shall be a turbocharged, electronic fuel injection, four (4) cycle, water cooled six (6) cylinder.

M-B broom and air blower system is powered by a Caterpillar C13, 12.5 liters, 475 HP, governed at 2100 RPM. It is a turbocharged, electronically fuel injected, four cycle, water cooled six cylinder diesel engine and is EPA Tier III compliant.

1.1.1 (*) Displacement: 11.95 liter minimum. 12.5 liters

1.1.2 (*) Gross HP: 420 minimum. 475 HP

1.1.3 (*) Governed RPM: 2100 maximum. 2100 maximum RPM

1.1.4 (*) EPA Tier III compliant. EPA Tier III compliant

1.1.5 To be equipped with electronic controls for fuel injection and engine management including an automatic engine shutdown system with manual override and an electrical connector for *CATERPILLAR* or equivalent diagnostic system.

1.1.5.1 In addition to above shutdown language, engine is also to shutdown due to:

1.1.5.1.1 Low engine oil pressure.

1.1.5.1.2 High engine coolant temperature.

1.1.5.1.3 Loss of engine coolant.

1.1.5.1.4 Hydraulic oil loss (air blower and broom systems).

1.1.5.1.5 Also refer to engine compartment "INSTRUMENTATION/GAUGES" later in this specification.

1.2 Air Intake System:

1.2.1 (*) Single stage (single dry element) air cleaner, heavy-duty, minimum.

Primary air filter is single stage with safety element. Brand: Enginair EN16

1.2.2 Air filter restriction indicator with "tattletale" feature, located close to oil dipstick.

1.2.3 Pre-Cleaner: To be *CENTRI* or *ENGINAIR* or *SURECO* Turbo-II.

1.3 Exhaust System:

1.3.1 Designed to prevent rain, snow, or slush from entering system.

1.3.2 To include heavy-duty muffler and rain cap or elbow (horizontal system is acceptable).

1.3.3 Located or caged to protect operator from burns.

1.4 Cooling System:

1.4.1 Permanent type antifreeze, affording protection to minus 50 degrees Fahrenheit.

1.4.2 A coolant circulation bypass will be provided to allow coolant to circulate within the engine block while thermostat is closed.

1.4.3 Drain cock(s) will be provided at engine block and/or radiator low point.

1.4.4 Radiator to be mounted securely on vibration dampening mounts or be independent of engine mounting to eliminate vibration.

1.4.5 Radiator to be located to minimize ingestion of wheel splash and blowing snow.

1.4.6 To include a coolant sight glass easily viewed by ground personnel or a low coolant indicator.

1.4.7 Clamps utilized on all coolant hoses one (1) inch inside diameter or larger are to be "Constant Torque" design, stainless steel. Some engine manufacturers may not allow changing of all clamps due to warranty.

1.4.8 To include engine manufacturer's certification (at not later than time of pilot inspection) that the engine will maintain, but not exceed, a continuous operating temperature, as an operational unit, with a wide range of ambient temperatures to as low as minus 50 degrees Fahrenheit.

1.5 Fuel System:

1.5.1 Fuel filter system to include a *RACOR* hot engine coolant heated fuel and water separator.

1.5.1.1 To include ball valve(s), if necessary to prevent excessive fuel loss when changing filter(s).

1.5.2 Fuel filter(s) to be located in engine compartment with braided fuel lines to pump and easily accessible.

1.5.3 Fuel Tank(s):

1.5.3.1 (*) To include a total capacity sufficient to supply fuel to the engine while operating at rated intermittent governed speed, for not less than ten (10) hours, shall be provided.

Broom is supplied with a fuel supply of 150 gallons which provides a minimum of ten hours of operation at rated intermittent governed speed as shown by following calculations. 150 gallon / 14 gallon per hour @ 60% average load factor = 10.7 hours

1.5.3.2 When more than one (1) tank is furnished, means shall be provided to assure equalized fuel level in all tanks. Inadequate sized equalization lines shall not hamper fueling time.

1.5.3.3 Fuel line(s) shall be securely fastened in place, installed to prevent strains, and protected by grommets where lines project through aperture(s) in metal.

1.6 Fire Suppression System:

1.6.1 To include an automatic Halotron system in engine compartment area.

1.6.2 This system shall be connected to the engine shutdown system (in case of fire the engine will be shutdown).

1.7 Engine oil filter, spin-on type, easily accessible.

1.8 Engine oil drain to be remotely located behind the rear axle to the side or the rear of the unit, easily accessible. To include a ¼-turn ball valve with cap or plug

1.9 Starting Aids:

1.9.1 To be air intake grid heater or glow plug system or automatic electronic ether single shot canister type.

1.9.1.1 If ether single shot system to be *KBI Dieselmatic* or *TURNER* Quick Start.

1.9.1.2 If automatic ether system, to include an engine safety sensor switch.

1.9.1.3 If automatic ether system, to be installed in engine compartment and to have maximum protection from the elements.

1.9.2 Engine Block Heater: Immersion type, 110 volt AC, of highest wattage as provided by OEM engine manufacturer. Plug to be located in area of engine oil dipstick.

1.10 Engine Enclosure:

1.10.1 To be hinge mounted and hydraulically operated from the main and electric backup hydraulic systems.

1.10.2 When in the open/raised position, there shall be easy access for all engine maintenance components in the engine compartment. Removal of main components by overhead crane without removal of engine cover shall be possible.

1.10.3 Cover shall be designed with a safety feature to prevent leaking down or falling down when in the fully open position. This may be accomplished by use of an over center hinge system.

1.10.4 A weather resistant, pendent control or momentary switch shall be provided to operate the enclosure's hydraulic lift/lower system.

1.10.5 Doors shall be provided in the engine cover for easy access to all controls, gauges and pre-operation checkpoints in the engine compartment without having to use the tilt system.

2.0 CHASSIS:

2.1 Design:

2.1.1 Fifth (5th) wheel height of 62 inches.

2.1.2 The hitch shall be adjustable for height variations of the towing vehicles.

2.1.3 (*) Swing Clearance: A minimum of 55 inches is required with the broom in the transport position.

Broom swing clearance varies with fifth wheel height, but the MB broom will provide a swing clearance of 65 inches with the broom in transport position and when fifth wheel height is 62 inches.

2.1.4 (*) Tongue weight to be between 9,000 and 13,000 pounds and onto the fifth (5^{th}) wheel in transport position.

Tongue weight is 11,000 lb on the fifth wheel in transport position.

2.1.5 To include truck trailer type landing legs, two (2) each, adjustable utilizing a hydraulically (electric over hydraulic is acceptable) powered jack stand for ease of hooking up and detaching from the tow vehicle.

2.2 Rear Steer Axle:

2.2.1 Steering type with two (2) each pneumatic tired wheels (one tire each side).

2.2.2 (*) Minimum steering angle to be minimum 22 degrees, each direction, from center.

Steering angle is 40 degrees in each direction from the center

2.2.3 (*) Rating: Minimum 22,000 pounds.

The rear steer axle is rated at 26,000 pounds

2.2.4 The system shall be closed type design, consisting of two (2) hydraulic cylinders mounted at the fifth ($5^{th)}$ wheel area, for the purpose of actuating two (2) hydraulic cylinders that are mounted on the steering axle.

2.2.5 The system pressure shall be supplied by the main hydraulic system on the unit while the engine is running or by an electric driven pump.

2.2.6 The rear axle shall be designed to work in coordination with the turning movement of the tow vehicle's fifth (5^{th}) wheel plate.

2.2.7 The purpose of the system is to reduce the possibility of pulling the broom through the snow windrow of the tow vehicle plow.

2.2.8 This system shall also incorporate a realignment backup system, which will give the operator the ability to realign the rear axle with the front fifth (5^{th}) wheel plate, for coordination of the two.

2.2.9 This realignment shall be accomplished by a switch located in the broom's engine compartment.

2.2.10 There shall be an electric over hydraulic backup system, which can be utilized to accomplish the realignment if the engine is not running.

2.3 To be designed to prevent wheel splash and blowing snow from entering the engine compartment from under the machine.

2.4 Tires and Wheels:

2.4.1 (*) Tires, all season, tubeless, to be R22.5, 16-ply rating, load rated, minimum. Tires are 445 / 65R22.5 24 ply rated

2.4.2 Wheels to be heavy-duty disc type (California style are not acceptable).

2.4.3 Spare Tire and Wheel: **(Optional Item – Refer to Section III – Contract Price Schedule.)**

2.4.3.1 Mounted spare tire and wheel, same as described above.

2.4.3.2 When ordered, spare is to be shipped loose.

2.5 Mud Flaps: To provide a maximum distance above ground level of 12 inches front and rear of fenders, if fenders do not come within 12 inches of ground level.

2.6 Brakes:

2.6.1 To have dual circuit pneumatic brakes on rear axle.

2.6.2 Air tank(s) to be equipped with quick-drain to drain moisture from tank. Quick-drain control lanyard to be easily accessible by ground personnel.

2.6.3 Brake glad hands with color coded hoses to be permanent mounted at central forward fifth (5^{th}) wheel area location.

2.7 Weight Transfer System (If available):

2.7.1 To maximize vehicle tractive effort, braking, steer ability, and overall handling of the broom chassis, the broom chassis shall carry approximately 40 percent of the broom weight by utilizing a weight transfer system.

2.7.2 A pair of hydraulic cylinders shall support the parallel arms of the hitch.

2.7.3 Pressure in the hydraulic cylinders shall provide the lift necessary to transfer approximately 40 percent of the broom weight to the chassis.

2.7.4 A control valve adjusts the oil in and out of the cylinders to provide the same weight transfer no matter what the surface irregularities.

3.0 ELECTRICAL SYSTEM:

3.1 12 or 24 volt negative ground system.

3.2 Battery(s): Highest factory CCA available, 1000 CCA minimum at zero degrees Fahrenheit. Permanently sealed type.

3.3 Alternator: 110 amp (12 volt) or 55 amp (24 volt) minimum.

3.4 Single high ampere master electric switch to cut off power source from battery to the ground (ground side if possible, positive if not) and remainder of electrical system, *COLE HERSEE* #284-02 or *POLLACK* 51-315.

3.5 Circuits:

3.5.1 Protected by circuit breakers or fuses, opening at 50 percent of overload.

3.5.2 Circuits to match type of volt or ampere system requirements.

3.6 Lighting:

3.6.1 Broom Work Lights:

3.6.1.1 Two (2) each, 50 watt halogen, rubber mounted, adjustable, lights installed on the main frame to illuminate the broom working area.

3.6.1.2 These lights are to face rearward and ahead of broom assembly.

3.6.2 Strobe Lights:

3.6.2.1 Two (2) each, *WHELEN* S360D.

3.6.2.2 To be mounted above the highest point of the unit on the rear outside areas of the engine housing and be shielded from view of the towing vehicle operator.

3.6.2.3 Left lens to be amber and right lens to be blue, in color.

3.6.2.4 To include separate rear control panel “HIGH/OFF/LOW” switch on the tow vehicles remote control box panel or on the rear broom engine control panel box.

3.6.3 Systems FMVSS lighting to be powered by tractor truck’s 12 volt electrical system.

3.6.3.1 Stop, turn, and taillights to be *TRUCK-LITE* Model Super 44 LED with 42 diode pattern, rubber mounted.

3.6.3.2 Back-up lights to be TRUCK-LITE Model 44 LED with 27 diode pattern, rubber mounted.

3.6.3.3 Marker Lights:

3.6.3.3.1 To be LED, hermetically sealed cartridge for ease of service and durability.

3.6.3.3.2 Position light(s) at each end of the broom assembly, amber forward and red to the rear.

3.6.3.3.3 A cluster of three (3) each red lights are to be located at top rear of engine compartment.

3.6.4 Engine Compartment Work Light(s):

3.6.4.1 For when the engine enclosure is down. Light(s) are to provide adequate light for daily maintenance checks.

3.6.4.2 Switch(es) is/are to be easily accessib

3.7 Chassis Wiring:

3.7.1 Suitable fasteners, spaced to assure adequate attachment to prevent damage to the wires, shall support wiring installed in the undercarriage.

3.7.2 All undercarriage wiring to be continuous length and without splices, plug connectors, or terminal blocks.

3.7.3 All wiring entrance holes in chassis and body shall be provided with suitable grommets or bushings, and anti-chafing protection.

3.7.4 All exposed wiring to be protected by loom or conduit or sheathing.

3.7.5 All lighting, switches, sensors, wires and connectors shall be weatherproof and corrosion resistant.

4.0 INSTRUMENTATION, GAUGES AND CONTROLS:

4.1 All controls and control circuits to be designed to prevent damage to equipment if control is inadvertently activated out of normal operating sequence.

4.2 Engine compartment area to include the following instrumentation, gauges, and controls, minimum, in a moisture proof enclosure to allow maintenance personnel to check unit from ground level:

4.2.1 Control box is to be LCD, to including; engine start/stop, all gauges, menus, and engine diagnostics, as a minimum.

4.2.2 Any and all gauges that show pressure, temperature, etc., are to be in U.S.A. measurements such as PSI, Fahrenheit, etc.

4.2.3 All wording shall be in U.S.A. English.

4.2.4 Engine Hour Meter.

4.2.4.1 To be *ENM*. Model PT-12 LCD programmable engine hour meter, running engine activated. Meter is to be capable of displaying 99,999 hours.

4.2.4.2 ENM

4.2.4.3 Phone: 773-7785-8400

4.2.4.4 www.enmco.com

4.2.5 Engine start and stop switch.

4.2.6 Engine emergency stop switch.

4.2.7 Engine oil pressure gauge.

4.2.8 Engine coolant temperature gauge.

4.2.9 Engine shut-down (specific reason for) indicator lights.

4.2.10 Ammeter or voltmeter gauge.

4.2.11 Hydraulic system temperature gauge.

4.2.12 Fuel level gauge.

4.2.13 Mode Switches:

4.2.13.1 Sweep/Broom.

4.2.13.2 Air Nozzle(s).

4.2.13.3 Transport.

4.2.13.4 Sweep/broom and air

4.2.14 Controls for broom functions including; angle (left/right), raise/lower, and position for transport. (This can not be overridden by the towing chassis control box.)

4.2.15 Air blower functions including; up/down, and left/right.

4.2.16 Axle steering correction control.

4.2.17 Broom work lights switch.

4.2.18 Strobe lights "HIGH/OFF/LOW" switch.

4.2.19 Engine compartment light(s) switch.

4.3 Towing Chassis Control Box:

4.3.1 For all functions of broom and blower on a flexible lead, for cab control by towing vehicle, fully instrumented for broom and engine including (Supply drawing and/or photo of remote control box that will be provided):

4.3.2 Control boxes are to be LCD, to including; all gauges, menus, and engine diagnostics, as a minimum.

4.3.2.1 Engine start switch is not to be included.

4.3.2.2 Engine emergency stop switch.

4.3.2.3 Engine speed indicator, in RPM.

4.3.2.4 Engine oil pressure gauge and/or warning light.

4.3.2.5 Engine coolant temperature gauge and/or warning light

4.3.2.6 Alternator gauge and/or warning light.

4.3.2.7 Hydraulic system temperature gauge and/or warning light.

4.3.2.8 Broom speed, RPM, control.

4.3.2.9 Broom speed indicator.

4.3.2.10 Joystick for broom functions including; angle (left/right), raise/lower, and position for transport.

4.3.2.11 Broom position indicator.

4.3.2.12 Fuel level gauge and/or low fuel warning light.

4.3.3 Control Cables/Leads and Connections:

4.3.3.1 The unit shall be supplied with the following cables and connections to allow the remote control box to be installed in the cab of a tow vehicle with the cable/lead running from the back of the tow vehicle to the runway broom unit:

4.3.3.1.1 Remote control box to be equipped with a pigtail type cable with plug-in connector, approximately eight (8) foot in length. Note: This length may be shorter depending on where the control box will be located in the cab. This length will be determined prior to build. For bid purposes, plan on eight (8) foot.

4.3.3.1.2 A connector (to accept the remote control box plug-in and the main cable/lead receptacle) shall be supplied for installation, by State personnel, as a permanent receptacle at the back of the tow vehicle. Both the inside and outside position to include protective moisture proof caps that are to have a tether attached to prevent loss.

4.3.3.1.3 The main cable/lead shall be 16 foot in length, without splices between the tow vehicle cab and the runway broom unit. It will connect to the control box located in the cab, and it will also have male/female connectors at the point it makes contact with the runway broom at the fifth (5^{th}) wheel area. This is to allow for easy and quick replacement, in case of damage. This cable shall incorporate a "break-away" in-line coupler. Note: This length may be shorter depending on where the control box will be located in the cab. This length will be determined prior to build. For bid purposes, plan on sixteen (16) foot.

4.3.3.1.4 The cable/lead, with receptacle, running from the front of the runway broom unit to the rear control panel shall be enclosed for maximum protection.

4.3.3.1.4.1 Woven loom minimum.

4.3.3.1.4.2 Split loom is not acceptable.

4.3.3.1.5 Rear engine area control panel to include a receptacle to accept remote control box pigtail, for testing purposes. This receptacle is to include a protective moisture proof cap that has a chain or cable attached to prevent loss.

4.3.3.1.6 All cables/leads to be; flexible to minus 50 degrees Fahrenheit, properly sheathed, and moisture resistant.

4.3.3.1.7 All connectors to be quick disconnect type.

4.3.3.1.8 All connections, connectors, and receptacles are to be corrosion resistant and moisture resistant.

4.3.4 Control boxes to be moisture proof enclosures.

4.3.5 **SPARE CONTROL BOX: (Optional Item – Refer to Section III – Contract Price Schedule.)**

4.3.5.1 To include one (1) each spare control box complete with eight (8) foot of cable and plug-in connector. Note: This length may be shorter depending on where the control box will be located in the cab. This length will be determined prior to build. For bid purposes, plan on eight (8) foot.

4.3.5.2 To include one (1) each spare complete with a 16 foot control cable with connectors. Note: This length may be shorter depending on where the control box will be located in the cab. This length will be determined prior to build. For bid purposes, plan on sixteen (16) foot.

4.3.5.3 To be assembled and ready for immediate installation.

4.4 All switches, gauges, and controls to be properly lighted for day or night operation (a flexible cable night light type light is not acceptable).

4.4.1 All gauges to be back lighted type.

4.5 All switches, gauges, and controls to be properly identified by engraved type identification or electronic.

4.5.1 *DYMO* type tape labels not acceptable.

4.5.2 Stick-on type labels not acceptable, unless OEM part number identified in OEM parts book.

4.5.3 Engraved type labels are to be secured using screws, bolts, or rivets.

4.6 All switches, gauges, and controls for engine operation shall be shock mounted with easy accessibility to the wires and lines that operate said switches, gauges, and controls.

5.0 HYDRAULIC SYSTEM:

5.1 The hydraulic system shall conform to SAE J-931.

5.2 The hydraulic pump(s) are to be of the heavy-duty type and be directly driven by the engine and are to have sufficient capacity to operate all hydraulic equipment specified herein under all operating conditions and speeds. Pump(s) may be mounted to an engine mounted power-take-off gearbox. Clutch or driveshaft installations between engine and pump are not acceptable.

5.3 To include a variable or hydrostatic pump and hydrostatic motor(s) of sufficient size and output to meet all performance requirements.

5.3.1 (*) Hydraulic pump(s) and motor(s) are to be USA manufactured and have warranty and service centers in Anchorage, as a minimum.

Hydraulic pumps and motors are manufactured in the USA. Specification sheet attached. Warranty and service available through Alaska Hydraulics, Inc, 500 West Potter, Anchorage, AK 99518, Phone: (907)562-2217

5.4 All hydraulic positioning functions (broom head lift, broom head swing, broom cradle, deflector, and air nozzle operation) shall be equipped with a hydraulic position locking system.

5.5 A counterbalance valve shall be used for broom lift (if required) and a pilot operated check valve for the other functions.

5.6 Broom Hydraulics:

5.6.1 To be independent of blower drive and designed so that broom and blower may be used together or independently of each other with separate "on/off" switches.

5.6.2 (*) Broom to be driven by hydraulic motor(s) connected directly to the end of broom core and be protected from damage if hitting objects or being struck by other equipment.

Broom is driven by two hydraulic motors operating through planetary gears connected directly to broom core. The motors and gearboxes are mounted within the inner diameter of the broom head outer ends which provides protection.

5.6.3 Mechanical drive lines, chain couplers, gearboxes, or drive belts, are not acceptable. The *M-B COMPANY* planetary drive at the core end is acceptable.

5.6.4 Broom Speed:

5.6.4.1 To be hydraulically controlled by means of a remote control box.

5.6.4.2 (*) Operator control box variable from 0 to minimum 625 RPM working speed on a 46 inch diameter broom. For a 36 inch diameter broom the unit should be variable from 500 to 900 RPM.

Broom diameter of 46 inches and operator control box working speed from 0 to 625 rpm provided.

5.7 Air Blower System Hydraulics:

5.7.1 To be independent of broom drive and designed so that broom and blower may be used together or independently of each other with separate "on/off" switches.

5.7.2 To include a variable or hydrostatic pump and hydrostatic motor(s) of sufficient size and output to meet all performance requirements.

5.7.3 Blower(s) is/are to be driven by hydraulic motor(s) connected directly to the end of the blower shaft or by utilizing an oil immersed splined drive coupling.

5.7.4 Mechanical drive lines, chain couplers, gearboxes, drive belts or shot clutches are not acceptable.

5.8 Hydraulic Reservoir Tank:

5.8.1 (*) Capacity shall provide not less than 120 percent of the volume of oil required for operation of the hydrostatic system. On a closed circuit system requiring a main pump and a second or auxiliary pump to feed oil into the hydraulic system, the volume will be based on the main and second or auxiliary pumps.

Capacity of reservoir is 54 gallons which is more than 120 percent of the quantity required by the hydrostatic system.

5.8.2 To include a filler neck with easily removable (no tools) strainer basket. Filler to be located inside the engine compartment.

5.8.2.1 An air vent shall be incorporated in the filler cap (unless pressurized system). Air vent to be located inside the engine compartment.

5.8.3 To include one (1) inch drain plug.

5.8.4 A one-quarter (1/4) turn ball type shut-off valve on suction and return lines will be provided. The valve handles shall be tie-wrapped in the open position.

5.8.5 Suction outlet shall include a 100 mesh filter inside the tank.

5.8.6 To include sight gauge with thermometer.

5.8.7 To include clean-out access plate(s) on reservoir(s).

5.9 Hydraulic tubes, hoses and fittings used shall conform to SAE J514, J516, J517 and J524. A minimum number of fittings, joints and connections shall be used to prevent excessive back-pressure, vibration and leakage. Hydraulic lines shall be of sufficient size to permit free flow of hydraulic fluid at temperatures down to minus 50 degrees Fahrenheit.

5.10 Hydraulic Filters:

5.10.1 All elements where applicable to be spin-on type (an in-the-tank filter is acceptable).

5.10.2 In-line filters, when necessary to prevent excessive oil loss when changing of filter(s), to be plumbed with ball valves on each side of the filter. The valve handles shall be tie-wrapped in the open position.

6.0 BROOM SYSTEM:

6.1 It is the intent of this specification to describe a 19 ½ to 20 foot in length x 36 to 46 inches in diameter broom.

6.2 General:

6.2.1 Unit will be towed by a tractor truck utilizing a rigid 5th wheel plate.

6.2.2 (*) The broom shall provide a minimum 19 ½ foot sweeping width at 0 degrees utilizing a one (1) piece tubular S.I.B. core.

Sweeping path of broom at zero degrees is 20 foot. A single, one piece, 28 rows, SIB cassettes style, 20 foot X 46 inch diameter core will be provided. The core will have replaceable plastic inserts in the "T" slot. The bristles will be SIB cassette style 0.018 wire. The core will be dynamically balanced.

6.2.3 (*) Broom head must be capable of being angled a minimum of 32 degrees, to either side.

The M-B broom has a working angle of 35 degrees to either side.

6.2.4 (*) Broom Diameter: To be 36 to 46 inches.

The brush diameter is 46 inches.

6.2.5 Broom lift, rotation and angling will be accomplished hydraulically.

6.3 Brush and Brush Drive:

6.3.1 Brush shall be a single rotating horizontal cylinder, replaceable core type with bearings and supports at both ends.

6.3.2 (*) Brush strip core inserts to be *S.I.B.* poly fastened to the core.

Bristles will be SIB style 0.018 wire poly fastened to the core.

6.3.3 The brush shall be driven by hydrostatic drive motor(s), end mounted to a single brush core to properly distribute drive torque through the broom head.

6.3.3.1 (*) Core is to be dynamically balanced.

Core will be dynamically balanced.

6.3.4 Brush shall have the necessary degree of freedom to follow changes in elevation of the pavement being swept, while sweeping either left or right at the rated sweeping speed.

6.3.5 Brush shall sweep the same path whether angled left or right.

6.3.6 The brush fill shall be steel wire.

6.3.6.1 The wire (10 pound) shall have an average diameter of 0.018 inch, galvanized or stainless steel.

6.3.6.2 **SPARES: (Optional Item – Refer to Section III – Contract Price Schedule.)**

6.3.6.2.1 One (1) each, full set of wire shall be included (shipped loose, not mounted).

6.3.6.2.2 The wire (10 pound) shall have an average diameter of 0.018 inch, galvanized or stainless steel.

6.3.7 Brush Replacement:

6.3.7.1 The assembly shall permit field replacement of brush inserts with maximum ease without special hand tools.

6.3.7.2 Core shall not be required to be removed to replace brushes.

6.3.8 A hydraulic elevation mechanism shall provide adequate ground clearance for transport when not in use.

6.3.9 An easily accessible fine height adjustment shall be provided to compensate for brush wear.

6.4 Hood and Deflector:

6.4.1 A heavy gauge sheet steel brush hood shall be secured to the brush frame and be adjustable to within 1/4 (0.25) inch of the brush bristles.

6.4.2 The hood shall be designed to prevent ice buildup during freezing slush removal operations at rated speeds.

6.4.3 The adjustable hood shall incorporate an adjustable and replaceable snow stripper to prevent carry over of snow and clogging of snow in heavy snow conditions.

6.4.4 A snow deflector shall be mounted on the front of the brush hood and be capable of changing the angle at which snow leaves the brush.

6.4.4.1 The deflector's angle is to be controlled automatically or hydraulically adjusted from the operator's seated position from within the cab.

6.4.4.2 The deflector is to be designed to effectively control the elevation angle of discharge from the broom to prevent excessive buildup of snow on the machine or ingestion of snow into the engine air intake, air blast intake, engine radiator, charge air coolers, and hydraulic oil coolers.

6.5 Caster Wheels:

6.5.1 The broom shall have a minimum of two (2) caster wheel assemblies with dual or single tires located behind the head and inside the sweeping path.

6.5.1.1 If dual wheel system, to insure load is distributed evenly, axle must oscillate a minimum of five (5) degrees left and right of center.

6.5.2 Casters shall be of the full 360 degree revolving type with shimmy dampers as needed or incorporating swivel detent locks in lieu of a system that automatically lifts the broom when the broom starts to go in reverse (backing up) is acceptable.

6.5.3 To be located behind the broom head and inside the sweeping path.

6.5.4 Hubs must be de-mountable with steel rims.

6.5.5 Tires:

6.5.5.1 Tires shall be two (2) sets, 5.00x8 (12PR), minimum.

6.5.5.2 To be foam filled type.

6.5.6 **SPARES: (Optional Item – Refer to Section III – Contract Price Schedule.)**

6.5.6.1 To include two (2) each, complete caster wheel assemblies ready for bolt-on to the anti-shimmy damper. This includes foam filled tires which are mounted onto the wheels, which are mounted to the hubs, which include bearings, which are mounted onto the axles, etc. Mounting hardware, nuts, bolts, washers, etc. are to be included.

6.6 Broom Height Adjustment:

6.6.1 A hydraulic elevation mechanism shall provide adequate ground clearance for transport when not in use and appropriate down pressure to produce the most effective broom pattern. To be controlled by means of controls at the engine compartment area, or when connected, the remote control box.

6.6.2 Automatic Broom Pattern Control:

6.6.2.1 In addition to the manual system brush pattern adjustment, the unit is to include an automatic broom pattern control with adjustment.

6.6.2.2 To include a three (3) position momentary switch in the operator's cab. Toggle forward shall increase the pattern in predetermined increments. Toggle back and the pattern decreases in predetermined increments. The center position of the toggle is the run position.

6.6.2.2.1 These broom pattern adjustments can be achieved in the cab while moving and without raising the broom head.

6.6.2.3 An additional three (3) position pattern control switch located at the broom head for control from outside.

6.6.2.4 When the switch is in the run position, a time based system shall be used to readjust the broom pattern by counting the time in the broom down position.

6.6.2.5 When the preset time is reached, the broom head will index down a preset amount. At that time the timer is reset and restarts counting. Time running in the up mode is not counted.

6.6.2.6 Manually adjusting the pattern from the cab or broom head will reset the timer.

6.7 To include an electric over hydraulic system to raise and cradle the broom head in the event of engine failure. The switch or control for this function shall be located on the engine area control box.

7.0 PERFORMANCE TESTING (BROOM):

7.1 Must be able to sweep at speeds up to 35 MPH with head angled 30 to 35 degrees, with a strike pattern of three (3) to four (4) inches.

7.2 With broom in working position, broom must satisfactorily function with speeds up to 35 MPH, while sweeping a minimum of one (1) inch of fresh snow, with snow density of approximately 25 pounds per cubic foot.

7.3 Cycle time:

7.3.1 Broom raise time not to exceed 10 seconds.

7.3.2 Broom lower time not to exceed 10 seconds.

7.3.3 Broom swing time not to exceed 15 seconds from 30 degrees right of center to 30 degrees left of center, and visa versa.

7.3.4 Automatic to raise from down position to four (4) inches above ground to be a maximum time of four (4) seconds.

7.4 Sequencing of broom head and blower nozzle:

7.4.1 Broom head raise and lower to be simultaneous with or before blower nozzle.

7.5 The above requirements may be tested by the State prior to acceptance.

8.0 FORCED AIR BLOWER SYSTEM:

8.1 (*) The forced air blower system shall be a dual or single centrifugal impeller type. Dual forced air blower system uses two centrifugal impellers each with each their own nozzle.

8.2 Nozzle or nozzles shall blow in the same direction at any given time. Deflector nozzle or channels shall direct the flow to one side or the other.

8.3 Air Intake(s):

8.3.1 To be located and designed to prevent ingestion of debris, including ice, which may damage the blower.

8.4 (*) Output total capacity shall be a minimum of 20,125 CFM air volume at 320 MPH rated at outlet side of blower(s).

Output capacity is 23,040 CFM @ 410 MPH rated at the outlet side of the blowers.

8.5 Minimum air velocity rated at each outlet nozzle (with only one [1] outlet nozzle operating) to be 320 MPH measured at a distance of 12 inches from nozzle outlet exterior while broom is under load.

8.5.1 (*) Velocity requirement must be certified by an independent test facility and submitted with bid. Tests must be done at outlet nozzle.

Velocity is certified by an independent test facility and tested at the outlet nozzle, see velocity and volume certification

8.6 The blower nozzle(s) control shall be directional, left, right, or off and interlocked with the broom head able to always blow in the direction of broom casting.

8.7 A system for raising the nozzle(s) up to a minimum of 10 inches above level ground for travel shall be provided.

8.8 The blower(s) shall be the centrifugal type with dual or single outlet(s).

8.9 An operator controlled blower drive disconnect shall be installed to permit blowing with or without broom operation.

9.0 TRAINING: (Optional Item – Refer to Section III – Contract Price Schedule.)

9.1 The contractor shall provide a qualified factory trained service representative(s) to be in attendance when the unit is delivered.

9.2 The representative(s) shall be prepared and qualified to make all necessary adjustments to the unit and give instruction to the operators to assure correct operation of the unit when it is placed in service.

9.3 Training for units ordered for Ted Stevens Anchorage International Airport will be held at the TS Anchorage International Airport Equipment Maintenance Facility. Arrangements to be made with Dan Frisby, phone 907-266-2427.

9.4 The contractor is responsible for the instructors being on time for the training.

9.5 Training to be done during Monday through Friday only.

9.6 Operator Training:

- 9.6.1 To include a minimum of three (3) each 7 ½ (7.5) hour shifts.
  - 9.6.1.1 Day shift will start at 7:30AM.
  - 9.6.1.2 Swing shift starts at 3:30PM.
  - 9.6.1.3 Mid shift starts at 11:30PM.
  - 9.6.1.4 All shifts have a 30 minute lunch break.
  - 9.6.1.5 40 operators are to be trained.
- 9.6.2 Operator training to include the following, as a minimum applicable agenda:
  - 9.6.2.1 Operating procedures per operating manual.
  - 9.6.2.2 Break-in procedures.
  - 9.6.2.3 Equipment limitations.
  - 9.6.2.4 Operator maintenance.
  - 9.6.2.5 Before operations checks and lubrication.
  - 9.6.2.6 Safety.
  - 9.6.2.7 Cold weather operations.
  - 9.6.2.8 Jump starting.
  - 9.6.2.9 Welding on equipment.
  - 9.6.2.10 Towing or transporting equipment.
  - 9.6.2.11 Instruments and controls.
  - 9.6.2.12 Gauge interpretation.
  - 9.6.2.13 Equipment operation, Do's and Don'ts.
  - 9.6.2.14 Attachment operation, Do's and Don'ts.

9.7 Mechanic Training (Journeyman level):

- 9.7.1 To include a minimum of two (2) each 7 ½ (7.5) hour shifts.
  - 9.7.1.1 Day shift will start at 7:30AM.

9.7.1.2 Swing shift starts at 3:30PM.

9.7.1.3 16 mechanics are to be trained.

9.7.2 Mechanic training including the following theory, trouble shooting, and test procedures for, as a minimum applicable agenda:

9.7.2.1 Electronics.

9.7.2.2 Electrical.

9.7.2.3 Hydraulics.

9.7.2.4 Air system.

9.7.2.5 Drive train information relating to machine operation.

9.7.2.6 Engine and transmission electronics relating to machine operation.

10.0 MISCELLANEOUS:

10.1 Shipping: When over water, the unit will be shipped 'under deck' to prevent salt spray damage. For example: From Seattle to Anchorage, Totem Ocean Trailer Express. Also refer to Section III – Special Terms and Conditions.

10.2 Weight Scale Ticket: As per Section III – Special Terms and Conditions.

10.3 Dimensions:

10.3.1 (*) Transport Width: 9'7" (115 inches) maximum.

Transport width is 102 inches

10.3.2 (*) Length: From center of fifth (5^{th}) wheel pin to rear of unit, in working position, to be 42 feet maximum.

Length from center of fifth wheel pin to rear of unit is 38.75 feet

10.3.3 Removal of any component, to meet any of these dimensions, is not acceptable.

10.4 Paint: Chrome Yellow meeting FAA requirements. To include appropriate primer.

10.5 Winterization: Entire unit to be winterized to provide satisfactory performance in temperatures to minus 50 degrees Fahrenheit.

10.6 Warranty: To be full (100%) 5-year (60 month). Refer to Section V – Special Terms and Conditions.

10.7 Publications: **(Optional Item – Refer to Section III – Contract Price Schedule.)**

10.7.1 One (1) set of parts and service manuals to be supplied per Section II - Special Terms and Conditions.

10.7.1.1 Parts books are to contain cross references between the required OEM and vendor or suppliers part number.

10.7.1.2 Service manuals must cover all component tear down and testing. To include service, inspection interval and lube charts.

10.7.1.3 Parts and service manuals will be provided for but not limited to, Engine and Engine Electronics, Gear boxes, Fire suppression system, Air Compressor, Hydraulic pumps, Hydraulic Motors and Hydraulic valves.

10.7.2 Also to be provided is four (4) each operator's manuals for each unit.

10.7.3 Contractor will guarantee that purchaser is provided with any and all amendments to parts catalogs or service manuals for a period of three (3) years.

10.7.4 Contractor may be required to supply samples of parts and service manuals after bid opening.

10.8 Component Sourcing:

10.8.1 Due to critical nature of vehicle mission and parts support, only current production componentry shall be supplied.

10.8.2 (*) The contractor shall provide assurance that only unused, newly manufactured components are supplied.

M-B certifies that only unused, newly manufactured components will be used.

10.8.3 (*) In the bid package, the contractor and/or vehicle manufacturer shall certify that the engine(s), hydrostatic transmission(s), gear case, power take off, and axles to be supplied will be newly manufactured and purchased directly from the original component manufacturer or their authorized OEM distributor.

M-B certifies that only unused, newly manufactured components will be used and purchased directly from the original component manufacturer or their authorized OEM distributor.

10.8.4 Upon the request of the purchaser, the contractor shall provide copies of purchase orders and invoices properly dated after bid award to verify the source and newness of these components.

10.8.5 Purchase orders and invoices shall reference the component manufacturer, manufacturer's model and/or part number, and the contractor and/or vehicle manufacturer's name and part number.

10.8.6 In the event any of these components are manufactured by either the contractor or vehicle manufacturer, documentation shall be provided indicating manufacture date and chassis installation date by serial number.

10.8.7 Failure to provide appropriate documentation of component sourcing shall be considered cause for rejecting the delivered vehicle. The burden of proof shall lay with the contractor.

10.9 Manufacturer/supplier stability:

10.9.1 In the interest of continued and reliable service, parts, and technical support, equipment suppliers shall have:

10.9.2 (*) Have documentation provided in the bid package to verify such continuous business activity, such as location and contact lists, financial statements, and annual reports.

M-B has shipped much airport snow removal equipment for more than 50 years. For example, see the enclosed Runway Broom Master Machine Listing for the past few years which demonstrates our continuous business activity. In keeping with customer confidentiality names and amounts are not shown. If required, this information can be supplied on a case by case basis, as required. M-B is a privately owned corporation, thus financial statements and annual reports are not available due to confidential reasons. M-B is a sound and reliable firm, celebrating its 100 year anniversary in 2007. Yukon Equipment has facilities at 2020 E. 3rd Avenue, Anchorage, AK and 3511 International Street, Fairbanks, AK. See data sheet for more information.

10.10 Inspection: For compliance to specifications will be held at the assigned location, even if the unit has had a pilot inspection.

11.0 PILOT INSPECTION: (Optional Item – Refer to Section III – Contract Price Schedule.)

11.1 Contractor will be required to provide an inspection prior to shipment from the manufacturer's facility. The contractor will provide the State with a minimum 30 day notice prior to the pilot inspection.

11.2 Prior to shipment from the manufacturer's plant, representatives of the State will inspect a **completed unit**, for conformance to specifications. The completed unit, component equipment, and accessories shall be inspected and/or tested by the contractor for compliance with specifications prior to the arrival of the State inspection team.

11.2.1 The unit will be required for inspection, complete as set forth in the specifications, ready to ship, not as it may come off the assembly line with after-assembly work yet to be completed.

11.3 The contractor shall provide full access to the State inspection team.

11.4 These inspections by the State will be thorough and very critical. It will determine quality of workmanship and encompass a complete review of the specifications. Adequate time and technical personnel shall be made available to assist the State in these inspections. This must be accomplished prior to work proceeding on the balance of units.

11.5 Inspection Trip Costs:

11.5.1 If outside of the United States:

11.5.1.1 Contractor will supply round trip coach ("Y") airfare (not supersaver), (or as required by the State of Alaska Travel Department), for two (2) inspectors to the manufacturer's facility. Both inspectors will depart from **ANCHORAGE**.

11.5.1.2 Per Diem for meals for each of the two (2) inspectors shall be as determined by the State of Alaska Travel Department. This amount will be paid in advance (US$).

11.5.1.3 It is expected that there will be four (4) days (travel day, inspection days, and return travel day).

11.5.1.4 The contractor shall assist by booking lodging reservations. Actual costs of lodging will paid by the contractor.

11.5.1.5 Arrange and provide all ground transportation necessary to conduct the inspection for the State inspection team.

11.5.2 If in the United States:

11.5.2.1 Contractor will supply round trip coach "Y" full air fare (not supersaver), with open arrival and departure times, for two (2) inspectors to the manufacturing plant. Both inspectors will depart from **ANCHORAGE**.

11.5.2.2 Per Diem for each of the two (2) inspectors shall be at a rate of $150.00 per day, each. It is expected that there will be three (3) days (travel day, inspection day, and return travel day).

11.5.2.3 The contractor shall assist by booking lodging reservations. Meals and lodging will be paid by the State inspectors.

11.5.2.4 All ground transportation necessary to conduct the inspection including up to two (2) vehicles, one (1) for the Contracting Authority representative and one (1) for the maintenance personnel, (Chevy Lumina, Ford Taurus, or similar size sedan).

11.5.3 While the State recognizes contractual responsibility in testing, the State reserves the exclusive right to reduce the number of inspectors when and if that action seems prudent. If the number of inspectors is reduced, the contractor will return to the State all monies saved by that action within thirty (30) days following the actual inspection.

11.6 It shall be the responsibility of the State inspection team to technically inspect and test the unit for compliance with the specifications.

11.7 It shall be the responsibility of the Contracting Authority Representative to observe the inspection and test to assure compliance with the published terms, conditions, and specifications of the contract, and to mediate any disputes which may arise between the contractor and the Department of Transportation's representatives.

11.8 FINAL ACCEPTANCE REMINDER: Final acceptance is at final destination; however, all major tests will be conducted at the contractor's place of business unless the State has reason to believe alterations or damages have taken place which may have changed the performance or design characteristics of the unit since the time of inspection at the contractor's location.

11.8.1 A final inspection of the unit will be conducted at FOB point to assure that the unit still meets specifications.